

REMARKS

Favorable reconsideration is respectfully requested.

The claims are 11-28 with claims 11-18 being withdrawn from consideration.

Applicants acknowledge with appreciation the indication that claims 22 and 26 would be allowable if rewritten in independent form. However, for reasons set forth below, it is considered that all of the claims in this application are now in condition for allowance.

Support for the above amendment is evident from page 6, lines 7-13 and Figure 3 of the present specification.

Claims 19-21, 23 and 27-28 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hego et al. and Nezu et al.

Claims 24 and 25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Popov or JP '030.

These rejections are respectfully traversed.

In Hego (Figure 1), the section where the polymerization would be inhibited is a cooling column 1 in the purification section. Thus, the present invention is unobvious from Hego merely inhibiting the polymerization in the purification section.

In order to further distinguish the present invention from Hego, claim 19 has been amended as above. This amendment is to clarify the following:

- a) The purification system comprises a purifying section and a vacuum section.
- b) The purifying section includes a distillation column and a condenser.
- c) The vacuum section comprises a gas and liquid contact chamber and a steam ejector.
- d) The gas containing the easily polymerizable compound is permitted to flow into the gas and liquid contact chamber through the steam ejector from the purifying section.
- e) The liquid containing the polymerization inhibitor is supplied into the gas and liquid contact chamber in the vacuum section.

As is apparent from the above configuration, the purification section comprising merely the cooling column 1 and condenser 3 in Hego is unsuggestive of the claimed vacuum section comprising the gas and liquid contact chamber and the steam ejector.

The rejection states at page 3 that the phrase “where the gas containing the polymerizable compound originated from...” is of no patentable importance.

In reply, the present invention focuses on inhibiting the polymerization in the vacuum section into which the gas containing the easily polymerizable compound is permitted to flow from the purifying section. This is because a part of the easily-polymerizable compound avoids being condensed through the condenser in the purifying section, flows into the vacuum section through the steam ejector, and polymerizes, thereby clogging the devices in the vacuum section.

Thus, the section where the gas containing the easily polymerizable compound originated from is very important in the present invention, in view of the problems to be solved.

The rejection also asserts “inhibiting the polymerization in the vacuum section is of no patentable significance as it is recited only in the preamble of claim 1”.

To establish patentable significance, the wording of “inhibiting the polymerization on the vacuum section” is incorporated into the body of the claim. Further, neither Hego nor Nezu discloses this approach to inhibit the polymerization in the vacuum section. Thus, it is not obvious to inhibit the polymerization in the vacuum section over Hego in view of Nezu.

The rejection states: “Hego suggests the incorporation of a condenser in its system, which naturally or inherently produces vacuum in a distiller”.

However, the above statement is not consistent with the disclosure of Hego. Hego clearly describes that the cooling column 1 operates at the elevated pressure ranging from 10^5 to 3×10^5 Pa (column 3, lines 28 to 29) in combination with the condensers 3A and 3B. Therefore, the statement of “which naturally or inherently produces vacuum in a distiller” is not correct.

The rejection states that “one skilled in the art will be able to determine the appropriate pressure to use to avoid impairment...efficiency” to justify the combination of Hego and Nezu.

In reply, this statement does not suggest that the reduced pressure or vacuum can be employed in the system of Hego.

Hego discloses "the pressure in the stripping column is preferably higher than the pressure in the cooling column to allow the gaseous stream produced by stripping to be reinjected into the cooling column with the feed gas stream. It should be noted that the pressure in the stripping column must not be too high, otherwise stripping efficiency is impaired. One skilled in the art will be able to determine the appropriate pressure to use to avoid the impairment of the stripping efficiency"(emphasis added) (column 4, lines 9 to 16) and "The pressure in the stripping column 4 is preferably slightly higher than the pressure prevailing in the cooling column 1 (column 7, lines 52 to 54)".

The above disclosure relied on by the rejection relates to the pressure of the stripping column and merely suggests that one skilled in the art will preferably employ slightly higher pressure for the stripping column than the pressure in the cooling column 1. As described above, the cooling column operates at the elevated pressure, thus it is apparent that the stripping column also operates at the elevated pressure.

Therefore, the above description does not suggest that the reduced pressure or vacuum can be employed in the system of Hego. It is untenable to justify the combination of Hego and Nezu by stretching the above description.


For the foregoing reasons, it is apparent that the rejections on prior art are untenable and should be withdrawn.

No further issues remaining, allowance of this application is respectfully requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact undersigned at the telephone number below.

Respectfully submitted,

Yukihiro MATSUMOTO et al.

By: 
Matthew M. Jacob
Registration No. 25,154
Attorney for Applicants

MJ/da
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
November 24, 2003